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Thursday, March 20, 2008

Unpredictable elections

Elections create a big public choice problem. People contribute money or other favors to candidates in exchange for political favors. This is economically indistinguishable from bribery. The problem with bribery is not that people can buy votes -- one can buy votes in corporations, and there's nothing corrupt about it -- but that there is a wasteful lobbying, a spending of both money and time, to purchase not votes but particular political outcomes. Arthur contributes to Bob's election, or flies Bob around in his corporate jet, or runs some "independent" ads or news stories favorable to Bob, and Bob sends some special pork barrel goodies Arthur's way, or gives him a special dispensation from a regulation that will hurt his competitors, or gets him a government job. Some of the more overt forms of this election-phase bribery can be banned or minimized by law, but for every overt form there are a dozen or more subtle or novel forms that cannot effectively be regulated.

Here in the U.S. the notorious McCain-Feingold law is an attempt to curb this problem. It is notorious because it does so by restricting free speech. In particular, it restricts who can spend how much on what kinds of speech running up to an election. Inevitably, it and similar laws are both full of loopholes and contrary to the spirit, if not the letter, of our First Amendment.

There is a far better solution that does not have significant loopholes and does not regulate any speech: make elections unpredictable. If would-be purchasers of political favors cannot predict who will win, or even who might win with substantial probability, they cannot purchase any favors prior to an election. A perfectly unpredictable election would be bribe-free.

The Grand Council Chamber in Venice

We can't make elections perfectly unpredictable, but we can get pretty close. There are historical and even contemporary precedents. For example, we choose jurors by lot from a pool much larger than the twelve jurors selected. This prevents wealthy plaintiffs, defendants, or governments from buying jurors through the selection process. (After selection, there are a number of legal and physical sequestering mechanisms that can be used to isolate a jury from contact with favor purchasers. As for political office, this article deals only with bribery during the selection process).

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Nick Szabo

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"Like most blogs worth my attention, this blog is updated only infrequently. That is because the authors of blogs worth my attention only post when they have something to say that is true, relevant and not already known by their audience. Most of the human race does not have the skill to know when an idea has these three properties. The skill is particularly rare in the fields of politics and economics, which is why this blog is such a rare and valuable thing." -- Richard Hollerith

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In ancient Athens, not only juries but many office-holders were selected by lot. But the most intriguing unpredictable election process was probably that of the medieval Venetian Republic. This republic helped turn a secure island into Europe's wealthiest trading empire. In Venice, many political offices were selected by a repeated cycle of lottery, vote, ... lottery, vote. The final lottery and vote, at least, were held one after the other in the same room, giving favor purchasers no time or privacy to do their business. The leading office in Venice, the Doge, was selected by a Great Council of about 2,000 members from those members, through a process that can be diagrammed as follows:

> 2,000 --> L30 --> L9 --> E40 --> L12 --> E25 --> L9 --> E45 --> 11L --> E41 --> ED

Scott Gordon describes this process as follows:

> L refers here to selection by lot; E to selection by election [voting]. In the Great Council, by the drawing of balls from an urn, 30 members of the Council were selected; a further drawing reduced these to 9 who met to elect 40 men. This 40 was reduced by lot to 12 who proceeded to elect 25, and so on until the final election selected 41 nominators, who submitted their choice to the Great Council [i.e. made the final vote for Doge].

The process is loosely similar to the confusion/defusion cycles of encryption or the repeated mixing phases used for securely anonymous Internet communications. The Venetians alternated a randomizing step with a debate-and-voting step. It's not clear what, if any, function was served by the particular number choices or some of the other detailed structure. Each elector presumably had a substantial but fixed number of votes, so that there would exist a top 40, 25, 45, or 41 of vote getters despite being only 9, 12, 9, or 11 electors respectively.

I suggest the following leaner structure. A modern congressional election, for example, might look like this:

> 600,000 voters / 100 candidates --> E23 --> L7 --> E19 --> L11 --> E17 --> L7 --> E19 --> EM

Thus the top 23 vote-getters (by the 600,000 voters) are selected, from whom 7 are chosen by lot. These lucky candidates, who now serve as electors, then elect from among all the candidates except themselves 19 electors, who are whittled down by lot to 11. These elect 17 electors from the candidates except themselves, who are whittled down by lot to 7. These final seven then elect 19 final electors except themselves, who proceed to elect the Representative from among all the candidates except themselves.

This should probably be done online at a scheduled time, if an online election can be made secure, rather than trying to get all the elector/candidates to meet physically at one or more scheduled times. The last two steps at least need to proceed quickly enough that no deals can be done between or during them. With reliable connections and good user interface design it should go quite fast. The preceeding election steps should usually include time and communications channels for debate and research, but not enough time to

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forge the social relationships often necessary for reliable favor purchase.

I've used prime numbers based on a possibly superstitious analogy to the use of prime numbers in cryptography or by cicadas, i.e. on the hunch that prime numbers will make each step less predictable than with factorable numbers. The process of signing up to be a candidate must be very easy, so that we can get large numbers of people signing up to run in even small elections. The fact that they double as both electors and candidates who might get elected to office increases the motivation to become an elector/candidate. A further benefit is that electors, themselves elected, can prevent a demagogue from being chosen, while the election cycles make it less likely than in a pure lottery for a whacko or incompetent to be chosen.

Posted by Nick Szabo at 5:53 PM

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Comments on the United States Constitution (ii)

Logical emergence of money from barter

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8 comments:

Anonymous said...

Surely, a Congressman who is open to having is vote swayed on a particular Bill in exchange for cash is a less effective representative of his constituency than one who is not, since the former can be bought by those whom he doesn't represent.

The possibilit of bribery appears to increase the "representation distance" between a Congressman and his constituency, to borrow your terminology.

3:38 AM

Michael said...

Very interesting. The venetians were innovators in many ways. They also invented double entry bookeeping and the first patent system.

8:10 AM

George Weinberg said...

I don't think the bribery aspect of campaigns is all that important. I think if one wants to bribe politicians it's more effective to bribe them while in office or promise them favors after office.

I do think, however, that we might be better off with political officers chosen at random than with the narcissistic types willing and even eager to spend much of their lives on the campaign trail.

1:54 PM

nick said...

Anonymous, that's a great point, that bribery increases the representation distance. (I used that phrase in my paper on the Non-Delegation Doctrine here. That paper also describes some of the philosophy behind the structure of the U.S. Constitution, such as the separation of powers.)

Representation distance, as I recall, is the degree to which the represenative actually represents the interests (basically equivalent

to economic preferences, but they might also include preferences to coerce others via government) of his constituents rather than others. One can think of a this distance as being minimal, call it 1, when a person is acting for himself. When one principal delegates duties to one carefully chosen and monitored agent (a.k.a. representative), the distance is some greater value, perhaps 2. Representation distance is further compromised by majority vote, which leads to two losses: (1) the interests become increasingly general and vague, rather than the specific and concrete interests the voters actually have, as the number of voters increase and (2) the interests of minorities tend to be neglected.

The larger the number of voters, the longer the representation distance. This distance may be proportional to the number of voters, in which case the representation distance of a U.S. Congressional election on our scale is about 6 million.

There may also be efficiency measures proportional to this distance. For example, the efficiency of investment in public goods (where the "public" is just the population of voters) may be logarithmic in the number of voters. On the other hand, larger representation distance may have a good effect in decreasing the ability of majorities to oppress minorities in specific ways. (However money everybody understands at every distance). These are just theories I'm throwing out off the top of my head, but representation distance does give a way to reason about public choice problems.

The representation distance to executive and independent agencies is much shorter if you're a lobbyist. K Street is a far more effective representative institution than large democratic elections. It is, perhaps, not too different than the aristocracy the federalists Framers were dreaming of, albeit on a far vaster and more intrusive scale.

Many anti-federalists argued that a large republic could not work because of what I am calling the representation distance. The vast majority of republics in history had been quite small, often little more than a large town or city. A few large republics had existed previously, but they had been aristocratic in nature (Rome, Venice, Genoa, etc.) The federalists were, generally speaking, aristocrats, and it was OK by them if the U.S. ended up aristocratic. Instead we ended up with a party system and a weird politics where political debates are are conducted over very abstract philosophies, slogans, broad economic classes, races, and ethnic groups. These groups compete to allocate "public goods" to serve their perceived broad interests, to "redistribute" property from the other groups, and to guilt people in other groups to allow such redistribution. In historical terms, the United States and other modern "democracies" are very weird indeed.

michael, you're write. I'd also point to the Genovese where were great innovators in contracts. For example they invented modern marine insurance, unbundled from other kinds of contracts, and reinsurance (most familiar as the Lloyd's Names system).

George, unpredictable elections certainly do not solve the entire corruption problem. Indeed, most of the operational bias occurs on K Street, the direct lobbying of unelected bureaucrats rather than of elected officials. Nevertheless, elections are an important part of many institutions, including commercial corporations, so the unpredictable election techniques could have a wide impact. And that's a good point about lotteries not having the bias of voting in selecting for power-hungry types.

2:23 PM

nick said...

This distance may be proportional to the number of voters, in which case the representation distance of a U.S. Congressional election on our scale is about 6 million.

Oops, in my quick commenting I forgot to revise the result when I revised the input and in any case I should explain the derivation. The idea is that if one principal (one voter) has a representation distance of 2 from his representative, and if the distance is proportional to the number of voters, than the distance is 2*(600,000) or 1.2 million.

Of course, the assumption is a potentially much larger source of error, i.e. the distance may be logarithmic or exponential with the number of voters, or the square root or the square, or something else besides proportional, so the number is just a possible example.

2:43 PM

nick said...

BTW, I'm moving a bleg here from a defunct comment thread below:

I am looking for a new platform besides Blogger to blog on. I need to be able to export my old posts cleanly from Blogger to the new platform, I should also be able to export cleanly from the new platform (I don't want my content held hostage by a platform), and it should be an advance in reader friendliness. Dear readers, a bleg, what platform(s) do you recommend?

2:48 PM

George Weinberg said...

This idea of "representation distance" is interesting, I don't think I've ever heard of it before.

It seems to me that it's only possible to "represent" a homogeneous group. If a district is deeply divided, it can't be helped that the "representative" will be working against the interests of many of his constituents.

11:04 AM

nick said...

george: *It seems to me that it's only possible to "represent" a homogeneous group. If a district is deeply divided, it can't be helped that the "representative" will be working against the interests of many of his constituents.*

This is true, and I'd add that no group is truly homogenous, so it's not possible to perfectly represent any group. Since even any two people communicate imperfectly, and have conflicts of interest between them, it's not even possible for one person to perfectly represent another, albeit such representation can far more accurately represent any interests than representing a group. Thus representation distance grows with the size of group represented. This is also why representation via lobbying on K Street is usually far more effective than "democratic" representation through elections with large numbers of voters.

Since the agent represents not only normal economic preferences, but also preferences to coerce others (e.g. a majority voting to "redistribute" money from a minority, or a guilt-laden minority even voting to redistribute it from fellow members of their minority to assuage their guilt), large representation distance is not necessarily a bad thing.

Indeed, an effectively infinite representation distance is effective independence, which is often a good thing. We want the legislative, executive, and judicial branches to operate independently, for example, not for one to represent the other. However political property rights are a far better way to achieve indepence or infinite representation distance. Political property rights turn at least putatively will-based (a representative is supposed to represent the will of his principal(s)) system into a rule-based system (the owner must operate within the procedural bounds of his property right).

1:56 PM

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